

REMARKS

Claims 1-31 are pending in the present Application. Claims 1, 5-8, 12-25, 27, 30, and 31 are rejected. Claims 2-4, 9-11, 26, 28, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In response to the Office Action, Applicants are amending independent claims 1, 8, 15, 17 and 23-25, and dependent claims 7, 10-12 and 14. Additionally, Applicants are canceling dependent claims 9 and 26, and adding new claims 32 and 33. No new matter has been added. In view of the foregoing amendments and the following remarks, Applicants hereby respectfully request reconsideration of the Application.

Rejection Under 35 U.S.C. §102(b)

In paragraph 2 of the Office Action, claims 1, 5-8, 12-15, 23-25, 27, 30, and 31 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,509,110 to Latham (hereinafter, "Latham"). In paragraph 5 of the Office Action, however, claims 2-4, 9-11, 26, 28, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants are amending independent claim 1 to include all of the limitations of claim 26, which depends from claim 1. As amended, claim 1 now recites "representing depth information by a piecewise *analytical* function, each piece of the piecewise *analytical* function defining an area in an (x,y) space and representing depth information for the area of the (x,y) space." Because the Examiner stated in the Office Action that claim 26 would be allowable if rewritten

in independent form including all of the limitation of the base claim and any intervening claims, Applicants assert that amended claim 1 is allowable. Each of claims 2-7 and 27-31 depends either directly or indirectly from claim 1 and is allowable for at least the same reasons provided above for claim 1.

Applicants are amending independent claim 8 to include all of the limitations of claim 9, which depends from claim 8. As amended, claim 8 now recites “a first module configured to represent depth information for the 3D image by a piecewise *analytical* function, each piece of the piecewise *analytical* function defining an area in an (x,y) space and representing depth information for the area of the (x,y) space.” Because the Examiner stated in the Office Action that claim 9 would be allowable if rewritten in independent form including all of the limitation of the base claim and any intervening claims, Applicants assert that amended claim 8 is allowable. Each of claims 10-14 depends either directly or indirectly from claim 1 and is allowable for at least the same reasons provide above for claim 8.

Applicants are amending the “piecewise function” as recited in independent claim 15 to a “piecewise *analytical* function.” As amended, claim 15 now recites “a piecewise *analytical* function, each piece of the piecewise *analytical* function representing depth data for the area in the (x,y) space.” In contrast to amended claim 15, Latham does not teach a piecewise analytical function in which each piece of the piecewise analytical function represents depth data for an area of an (x,y) space. For these reasons, Applicants assert that amended claim 15 is allowable. Claim 16 depends directly from claim 15 is allowable for at least the same reasons provided above for claim 15.

Applicants are amending the “piecewise function” as recited in independent claims 23 and 24 to a “piecewise *analytical* function.” As amended, claims 23 and 24 now recite “a

piecewise *analytical* function, each piece of the piecewise *analytical* function for the 3D image defining an area in an (x,y) space and representing depth information for the area in the (x,y) space.” In contrast to amended claim 23, Latham does not teach a piecewise analytical function for a 3D image in which each piece of the piecewise analytical function defines an area in an (x,y) space and represents depth information for that area. For these reasons, Applicants assert that amended claim 23 is allowable.

Applicants are amending the “piecewise function” as recited in independent claim 25 to a “piecewise *analytical* function.” As amended, claim 25 now recites “dividing the primitive object into areas in an (x,y) space, . . . each area defined by a piece of the piecewise *analytical* function, each piece of the piecewise *analytical* function representing depth information for the area of the primitive object.” In contrast to amended claim 25, Latham does not teach a piecewise analytical function defining areas of a primitive object in an (x,y) space in which each piece of the piecewise analytical function represents depth information for an area of the primitive object. For these reasons, Applicants assert that amended claim 25 is allowable.

Rejection Under 35 U.S.C. §103(a)

In paragraph 4 of the Office Action, claims 16-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Latham.

Regarding claim 16, Applicants are amending the “piecewise function” as recited in independent claim 15 to a “piecewise *analytical* function,” as discussed hereinabove in the section entitled, “Rejection Under 35 U.S.C. §102(b).” Claim 16 depends directly from claim 15 and therefore includes all of the limitations of amended claim 16. Accordingly, claim 16 now requires “a piecewise *analytical* function, each piece of the piecewise *analytical* function

representing depth data for the area in the (x,y) space,” as is recited in amended claim 15. In contrast to claim 16, Latham does not teach or suggest a piecewise analytical function in which each piece of the piecewise analytical function represents depth data for an area of an (x,y) space. For these reasons, Applicants assert that amended claim 16 is allowable.

Applicants are amending the “piecewise function” as recited in independent claim 17 to a “piecewise *analytical* function.” As amended, claim 17 now recites “comparing depth information for at least one span with depth information for areas in an (x,y) space, each area in the (x,y) space defined by a piece of a piecewise *analytical* function, each piece of the piecewise *analytical* function representing depth information for the area in the (x,y) space.” In contrast to claim 17, Latham does not teach or suggest pieces of a piecewise analytical function defining areas in an (x,y) space wherein each piece of the piecewise analytical function represents depth information for an area in the (x,y) space. For these reasons, Applicants assert that claim 17 is allowable. Each of claims 18-22 depends either directly or indirectly from claim 17 and is allowable for at least the same reasons provided above for claim 17.

New Claims

Applicants are adding new dependent claims 32 and 33. Each of claims 32 and 33 directly depend from claim 8 and is allowable for at least the same reasons provided hereinabove for claim 8.

CONCLUSION

In view of the above remarks, Applicants believe that the rejections in the Office Action are fully overcome, and the Application is in condition for allowance. The Examiner is invited to contact Applicants' representative at the number below if the Examiner has any questions or if there are remaining outstanding issues.

Respectfully submitted,

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